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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,358	09/11/2003	Michael Croft	051501-0305443	6765

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EXAMINER	
OUSPENSKI, ILIA I	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,358	CROFT ET AL.	
	Examiner	Art Unit	
	ILIA OUSPENSKI	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-76* is/are pending in the application.

4a) Of the above claim(s) *10,12-14,21-22 and 40-68* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11,15-20,23-39 and 69-76* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/13/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The examiner of this application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Ilia Ouspenski, Group Art Unit 1644, Technology Center 1600.

2. Applicant's amendment/remarks, filed 07/20/2005, are acknowledged.

Claims 1 – 76 are pending.

3. Applicant's election of Group I (claims 1 – 39 and 69 – 76, drawn to a method of inhibiting or reducing a recall immune response comprising administering an agent that reduces or inhibits OX40 or OX40L signaling, expression, or activity) in the reply filed on 07/20/2005 is acknowledged.

Applicant further elects a "species" of OX40L antibody. It is noted that the restriction requirement with regard to "agents that reduces or inhibits OX40 or OX40L signaling, expression, or activity" has been set forth as election of Groups rather than species (see pages 3 – 4 of Office Action mailed 06/17/2005). Therefore, Applicant's election is interpreted as election of the Group drawn to a method of inhibiting or reducing a recall immune response comprising administering an antibody to OX40L.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

4. In view of Applicant's election, claims 10, 12 – 14, and 21 – 22 do not read on the elected invention.

Claims 10, 12 – 14, 21 – 22, and 40 – 68 are withdrawn from further consideration by the Examiner, under 37 C.F.R. § 1.142(b), as being drawn to nonelected inventions.

Claims 1 – 9, 11, 15 – 20, 23 – 39, and 69 – 76 are under consideration in the instant application, as they read on methods comprising administering an antibody to OX40L.

5. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. The provisional application USSN 60/410,534 upon which priority is claimed appears to provide adequate support under 35 U.S.C. 112 for subject matter claimed in the instant application.

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: signature of co-inventor Sharam Salek-Ardakani is not dated.

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention *to which the claims are directed.*

8. Applicant's IDS, filed 06/13/2005, is acknowledged, and has been considered.

9. The use of trademarks has been noted in this application (e.g. CELLQest on page 33). Each letter of the trademarks should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 71 and 72 are rejected under **35 U.S.C. 112, first paragraph**, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide a sufficient enabling description of the claimed invention.

The specification discloses that in a mouse model of asthma, administering a blocking anti-OX40L antibody reduces immune response and inflammation and reduces symptoms of asthma (e.g. Examples 3 – 6 and 9). The instant claims are directed to

"preventing" asthma or recall response associated with asthma, i.e. completely averting or precluding the development of any symptoms of the disease, or any aspect of a recall immune response.

Animal model studies have not correlated well with clinical results in patients. Since the therapeutic indices of immunosuppressive biopharmaceuticals, such as costimulation-directed antibodies can be species- and model-dependent, it is not clear that reliance on the disclosed experimental observations provides the basis for predicting the effectiveness of anti-OX40L antibodies in "preventing" asthma or recall response associated with asthma.

Pharmaceutical therapies in the absence of clinical data are unpredictable for the following reasons; (1) the protein may be inactivated before producing an effect, i.e. such as proteolytic degradation, immunological inactivation or due to an inherently short half-life of the protein; (2) the protein may not reach the target area because, i.e. the protein may not be able to cross the mucosa or the protein may be adsorbed by fluids, cells and tissues where the protein has no effect; and (3) other functional properties, known or unknown, may make the protein unsuitable for in vivo therapeutic use, i.e. such as adverse side effects prohibitive to the use of such treatment. See page 1338, footnote 7 of Ex parte Aggarwal, 23 USPQ2d 1334 (PTO Bd. Pat App. & Inter. 1992).

Further, the burden of enabling the prevention of a disease would be greater than that of enabling a treatment due to the need to screen those humans susceptible to such diseases in the absence of any clinical manifestations, and the difficulty of proof that the administration of the drug was the agent that acted to prevent the condition. Further, the specification does not provide guidance as to how one skilled in the art would go about screening those patients susceptible to asthma within the scope of the presently claimed invention. Nor is guidance provided as to a specific protocol to be utilized in order to prove the efficacy of the presently claimed methods in preventing these disease states. For example, in Basic Facts about Asthma (2003, Centers for

Disease Control and Prevention (CDC) Web site; see entire document), CDC states that "in most cases we don't know what causes asthma to develop, and we don't know how to cure asthma" (second paragraph). Further, Mellis (Med. J. Aust., 2002, 177: S78 – S80; see entire document), under the heading "What we need to know," summarizes the knowledge in the art regarding asthma prevention as follows: "Will effective primary prevention require multiple intervention strategies? If so, how feasible are these public health interventions?" Accordingly, undue experimentation is necessary to determine screening and testing protocols to enable the skilled artisan to practice the instantly claimed methods.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claim 1 – 9, 15 – 20, 23 – 39, and 69 – 76 are rejected under **35 U.S.C. 102(e)** as being anticipated by Arndt et al. (US Pat. Pub. No. 2004/0009174; see entire document).

Arndt et al. teach and claim methods of treating asthma by administering to a subject antibodies to OX40L (see entire document, in particular, e.g. paragraphs 0008 – 0036, 0048 – 0059, and the Claims, especially claims 1, 6, and 7). Arndt et al. teach that the subject is preferably human, and the administration can be by any route, such as by nasal spray (e.g. paragraph 0054).

Although the reference is silent about the "recall" immune response, it does not appear that the claim language or limitations result in a manipulative difference in the method steps when compared to the prior art disclosure. See Bristol-Myers Squibb Company v. Ben Venue Laboratories 58 USPQ2d 1508 (CAFC 2001). "{i}t is a general rule that merely discovering and claiming a new benefit of an old process cannot render the process again patentable". In re Woodruff, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). The mechanism of action does not have a bearing on the patentability of the invention if the invention was already known or obvious. Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In re Wiseman, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art. In re Baxter Travenol Labs, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

On this record, it is reasonable to conclude that the same subject is being administered the same active agent by the same mode of administration in the same amount in both the instant claims and the prior art reference. The fact that applicant may have discovered yet another effect from the method set forth in the prior art does not mean that they are entitled to receive a patent on that method.

Since the instantly claimed methods are not manipulatively different from those taught by Arndt et al., all functional limitations recited in the instant claims (such as, e.g. "wherein the symptom comprises eosinophils infiltration of lung") are inherent in the methods taught by Arndt et al.

Therefore the reference teachings anticipate the instant claimed invention.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1, 8, and 11 are rejected under **35 U.S.C. 103(a)** as being unpatentable over Arndt et al. (US Pat. Pub. No. 2004/0009174; see entire document) in view of Owens et al. (Journal of Immunological Methods, 1994, 168: 149 - 165; see entire document).

Arndt et al. have been discussed supra, and teach and claim methods of treating asthma by administering to a subject antibodies to OX40L (see entire document, in particular, e.g. claims 1, 6, and 7).

Arndt et al. do not teach methods of treating asthma by administering to a subject antibodies to OX40L, wherein the antibodies are human or humanized.

However, it was well within the purview of an ordinary artisan at the time the invention was made to produce human or humanized anti-OX40L antibodies for use in the instantly claimed methods, given the availability of the antigen and its known immunogenicity, as reviewed, for example, by Owens et al. (see entire document).

Owens et al. review the established applications and advantages of human and humanized antibody technology (see entire document, in particular, e.g. pages 149 – 157). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make human or humanized anti-OX40L antibodies, as taught by Owens et al.

One of ordinary skill in the art would have been motivated to make human or humanized anti-OX40L antibodies, because of the advantages of such antibodies for in vivo applications, as reviewed by Owens et al., and because of the promise of anti-OX40L antibodies for the treatment of asthma, as taught by Arndt et al. One of ordinary skill in the art would have had a reasonable expectation of success in producing such antibodies, because the procedure was well established at the time the invention was made, as reviewed by Owens et al.

Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

16. Conclusion: no claim is allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILIA OUSPENSKI whose telephone number is 571-272-2920. The examiner can normally be reached on Monday-Friday 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ILIA OUSPENSKI
Patent Examiner
Art Unit 1644

September 20, 2005

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